

PM1789



Flush pressure sensor

PM-,10BREA01-E-ZVG/US



- 1 groove with sealing ring (DIN EN ISO 1179-2)
- 2 external thread G1 (Aseptoflex Vario)
- 3 groove for sealing ring



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1			
Measuring range	-0.005...0.1 bar	-5...100 mbar	-0.073...1.45 psi	-0.5...10 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario			
Application				
System	gold-plated contacts			
Measuring element	ceramic-capacitive pressure measuring cell			
Temperature monitoring	no			
Application	flush mountable for the food and beverage industry			
Media	viscous media and liquids with suspended particles; liquids and gases			
Medium temperature	[°C]			-25...150
Min. bursting pressure	30000 mbar	435 psi	3000 kPa	
Pressure rating	4000 mbar	58 psi	400 kPa	
Vacuum resistance	[mbar]			-1000
Type of pressure	relative pressure			
No dead space	yes			
MAWP (for applications according to CRN)	[bar]			4
Electrical data				
Operating voltage	[V]	18...30 DC		



Flush pressure sensor

PM-,10BREA01-E-ZVG/US

Min. insulation resistance	[MΩ]	100; (500 V DC)
Protection class		III
Reverse polarity protection		yes
Measuring principle		hydrostatic
Integrated watchdog		yes
2-wire		
Current consumption	[mA]	3.5...21.5
Power-on delay time	[s]	1
3-wire		
Current consumption	[mA]	< 45
Power-on delay time	[s]	0.5
Inputs / outputs		
Number of inputs and outputs		Number of digital outputs: 1; Number of analog outputs: 1
Outputs		
Total number of outputs		2
Output signal		analog signal; IO-Link; (configurable)
Number of digital outputs		1; (IO-Link)
Number of analog outputs		1
Analog current output	[mA]	4...20; (scalable)
Max. load	[Ω]	700; (U _b = 24 V; (U _b - 9 V) / 21.5 mA)
Short-circuit proof		yes
Overload protection		yes
Measuring/setting range		
Measuring range		-0.005...0.1 bar -5...100 mbar -0.073...1.45 psi -0.5...10 kPa
Analog start point		-5...80 mbar -0.073...1.16 psi -0.5...8 kPa
Analog end point		15...100 mbar 0.218...1.45 psi 1.5...10 kPa
In steps of		0.05 mbar 0.001 psi 0.005 kPa
Factory setting		ASP = 0.0 mbar AEP = 100 mbar
Accuracy / deviations		
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation	[% of the span]	< ± 0,5; (linearity incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)
Linearity deviation	[% of the span]	< ± 0,25; (Turn down 1:1)
Hysteresis deviation	[% of the span]	< ± 0,2; (Turn down 1:1)
Long-term stability	[% of the span]	< ± 0,1; (Turn down 1:1; per year)
Total deviation over temperature range	Temperature range	
	-25...15 °C	total deviation
	15...80 °C	Characteristics deviation ± 0,15 % of the span / 10 K
	80...150 °C	Characteristics deviation ± 0,2 % of the span / 10 K
Notes on the accuracy / deviation	for further details see section Diagrams and graphs	

PM1789



Flush pressure sensor

PM-,10BREA01-E-ZVG/US

Reaction times		
Damping for the analog output dAA	[s]	0...4
2-wire		
Step response time analog output	[ms]	30
3-wire		
Step response time analog output	[ms]	7
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)	
SIO mode	no	
Required master port class	A	
Process data analog	3	
Min. process cycle time	[ms]	3.2
IO-Link resolution pressure	[mbar]	0.02
IO-Link functions (acyclical)	application specific tag; internal temperature	
Supported DeviceIDs	Type of operation	DeviceID
	default	670
Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection	IP 67; IP 68; IP 69K	
Tests / approvals		
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF	[years]	323
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J021
Mechanical data		
Weight	[g]	272.15
Housing	tubular	
Dimensions	[mm]	Ø 30.2 / L = 111
Material	stainless steel (1.4404 / 316L); PBT	
Materials (wetted parts)	ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L); surface characteristics: Ra < 0,4 / Rz 4; PTFE	
Min. pressure cycles	100 million	
Tightening torque	[Nm]	35
Process connection	threaded connection G 1 external thread Aseptoflex Vario	

PM1789



Flush pressure sensor

PM-,10BREA01-E-ZVG/US

Remarks

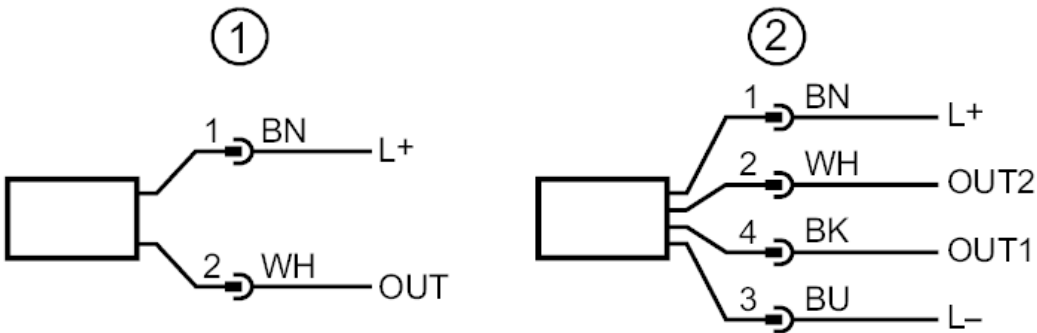
Pack quantity 1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection



- 1 connection for 2-wire operation (analog)
 - 2 connection for 3-wire operation (analog / IO-Link)
- OUT1 : IO-Link
OUT2 : analog output

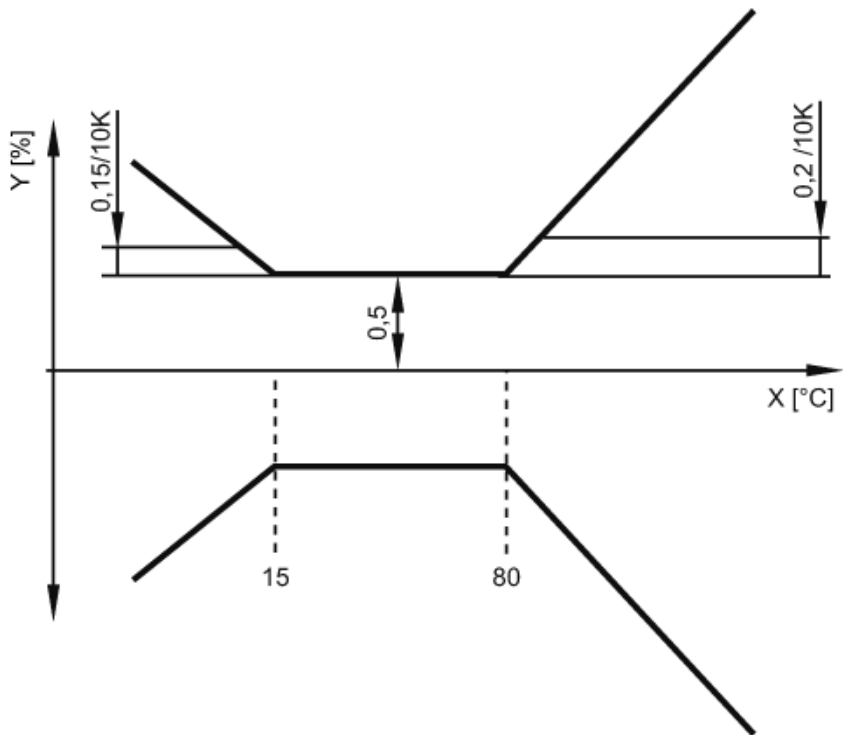
PM1789



Flush pressure sensor

PM-,10BREA01-E-ZVG/US

Diagrams and graphs



X temperature
Y total deviation